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Biological Sciences Division

In 1963, during the formative phases of the Office of Research and Development, efforts were roughly divided into Life Sciences and Physical Sciences. At that time, there was no divisional organization. This situation existed, insofar as Life Sciences was concerned, until June 1965.

Life Sciences efforts were twofold--first, to carry out required research and development efforts, and second, to carry on a continuing program of educating various Agency components in the ways in which Life Sciences could be used to exploit the vast potentials of the "living world" as a complement to Physical Sciences in the technical aspects of intelligence collection. The Life Sciences mission as stated at that time was

to undertake R&D in the Life Sciences which will assist the Agency in the collection, collation, analysis, and dissemination of intelligence; to undertake promising research in support of other offices of the Agency

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where adequate research capabilities were nonexistent, with particular emphasis on efforts which might be applicable to the problems of several Agency components, e.g., measurement of physiological and psychological stress.

The initial Life Sciences organization consisted of a Technical Manager reporting directly to the Deputy Assistant Director of ORD. The position of Technical Manager was occupied by

[redacted] from the inception of ORD

until June 1965. During this period, the Life Sciences unit grew to a working group of twelve technical officers and support personnel.

Initially, the research and development program reflected the individual disciplines and research backgrounds of the original staff scientists recruited.

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In view of the more clearly defined mission and requirements, and recognizing the need for facilitating more effective program management, the Life Sciences program was reorganized in 1965. Because of the size, diversity, and management complexity of the program, the position of Technical Manager was abolished and two line organization Divisions were established. The separation of personnel and program followed essentially disciplinary lines. These two Divisions were titled Biological Sciences Division, under the direction of  and Medical and Behavioral

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Sciences Division, under the direction of [REDACTED]

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The Biological Sciences Division was assigned responsibility for programs [REDACTED]

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[REDACTED] and advanced concept feasibility studies. Significant efforts have evolved in [REDACTED]

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[REDACTED] design, development, and fabrication; estimation of crop yields and vigor through photography and weather analysis; and macromolecular studies. Further details are given in the monographs entitled Operational Use of Biological Systems, Remote Crop Yield Determination, [REDACTED]

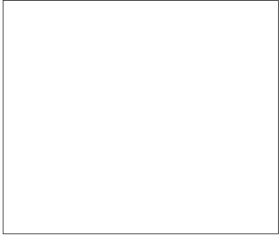
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[REDACTED] (see Volume IV).

The Biological Sciences Division at the present time has [REDACTED] personnel, with an anticipated growth to [REDACTED] by FY 1970. Its current budget is twice the initial total budget of the original Life Sciences organization, for an integrated growth rate of approximately [REDACTED] percent a year. It is anticipated that by FY 1970, another [REDACTED] percent increase increment will be realized. The fiscal growth of the Division can be traced as follows:

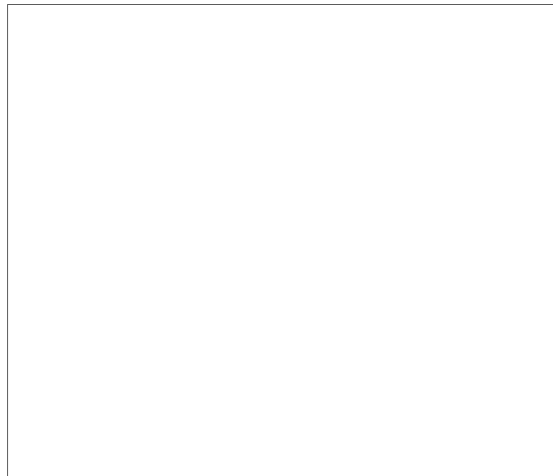
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<u>Fiscal Year</u>	<u>Amount</u>
1963	
1964	
1965	
1966	
1967	
1968	

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The personnel roster of the Division included the following:



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During the period 1963-68, numerous research and development programs were undertaken in support of the Agency's interest and requirements. The diversity of programs reflected the multidiscipline character of biological sciences as well as the "common use" application of the research and development product. The following program briefs represent the major programs and achievements of the R&D effort during the 1963-68 era.

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Personnel Assessment

Stress Measurement: In 1965, BSD personnel coordinated with the personnel of the Medical and Behavioral Sciences Division (MBSD) on the development of innovative concepts and techniques for monitoring and measuring physiological indicators of stress. During this period, a polygraph data acquisition

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and storage facility was developed, installed, and made operational. Total responsibility for stress measurement and assessment R&D programs was transferred to MBSD by the end of 1965.

Blood Analysis: In response to a DDP requirement issued in 1963, BSD initiated and completed in 1965 the development of microserological techniques for blood analysis. By the end of 1965, an operational system had been developed which required less than one microliter of blood to perform a complete blood analysis. In a separate but parallel research program, attempts to relate an individual's blood profile to an association with microwave energy met with little success. This latter program was also related to the high interest of the U.S. Government concerning the

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Ad Hoc Activities

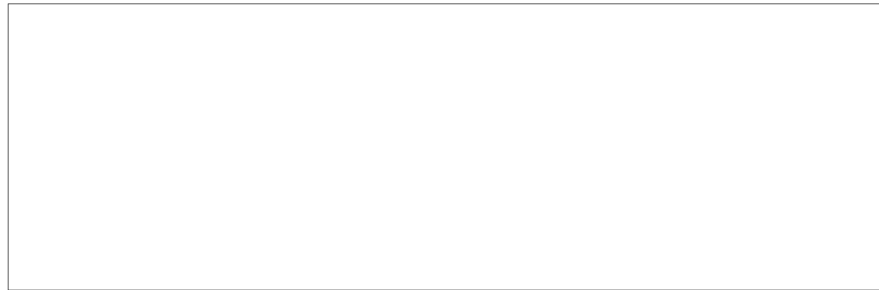
During the period 1963-68, BSD responded to numerous quick-reaction, ad hoc requests from other Agency components, as well as other Government agencies. The following is not all-inclusive but reflects the diversity and responsiveness of the Biological Sciences Division in addressing these requests.

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BSD assisted other Government components in evaluating research and development concepts and projects (continuous activity).

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